IN THE CLAIMS:

1. (currently amended) ~~In a voltage controlled oscillator (VCO) defining a feedback loop that~~A buffer circuit that generates an output signal to control the frequency of a VCO, ~~with a frequency responsive to an input control signal, the VCO further~~ the buffer circuit comprising:

a control FET transistor, defining a threshold voltage Vt, a gate, source and drain, where the control signal is connected to the gate,

a means for receiving at least a portion of the current from the drain of the control FET, wherein the current is responsive to the input control signal, wherein the current controls the frequency of the output signal,

a bipolar diode connected to receive the current from the source of the control FET, wherein the diode compensates for temperature effects of the control FET, and

a resistor in parallel with the bipolar diode.

2. (canceled)

3. (currently amended) The VCO of claim 1 wherein the diode comprises an NPN base emitter, and further the buffer circuit having an ~~and a~~ PNP base emitter arranged as a diode in parallel with ~~each other~~the NPN base emitter and with the collectors of the NPN and the PNP connected to their respective bases.

4. (currently amended) The ~~VCO~~ buffer circuit of claim 1 further comprising:

a second FET, configured with its gate connected to its drain,

the second FET drain connected to the drain of the first FET wherein the current through the second FET is in ~~parallel to~~series with the current through the first FET.

5. (currently amended) The ~~VCO~~ Vbuffer circuit of claim 4 wherein both the first and second FET's are N type MOSFETS.

6. (canceled)

7. (currently amended) The buffer circuit ~~The VCO~~ of claim 1 wherein the means for receiving the drain current from the first FET comprises a diode connected ~~fourth~~ FET.

8. (currently amended) The buffer circuit ~~The VCO~~ of claim 7 further comprising a ~~fifth~~mirror FET connected as a current mirror to the ~~fourth~~ diode connected FET of claim 7, wherein the current from the mirror FET is also used to control the output signal frequency.

9. (currently amended) ~~In a voltage controlled oscillator (VCO) defining a feedback loop that~~A buffer circuit that generates an output signal to control the frequency of a VCO, ~~with a frequency responsive to an input control signal, the VCO further~~ the buffer circuit comprising:

~~an~~ a first N type MOSFET with its gate connected to the control input signal,

a resistor connected to receive the source current from the first N type MOSFET,

a bipolar NPN diode connected transistor and a bipolar PNP diode connected transistor both connected in parallel with each other and with the resistor and arranged to receive the current from the source of the first N type MOSFET,

a diode connected P type MOSFET arranged with its drain connected to the drain of the first N type MOSFET transistor and arrangted to receive the current from the drain of the first N type MOSFET,

second and third diode connected N type MOSFET transistors in series with each other and connected to and arranged to draw current from the drain of the P type MOS-FET, and

a second P type MOSFET connected a s a current mirror with the first P type MOSFET transistor, wherein the currents through the first and the second P type MOS-FET's control the output signal frequency.

10. (currently amended) The buffer circuit ~~The VCO~~ of claim 9 wherein the currents through the first and the second P type MOSFET transistors ~~follows~~ follow a square law relationship with respect to the input control signal.